

35.(Amended) An airbag cushion comprising a fabric exhibiting an outer surface and an inner surface in relation to said cushion, wherein a film is laminated to at least one of said outer surface and said inner surface of said fabric; and wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at least two discrete areas within said fabric, wherein said at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width, wherein at least two discrete narrow areas of single fabric layers are present within said inflatable fabric, wherein said at least two areas of single fabric layers are separated by an area of at least two layers of fabric, and wherein the width of each single layer is from 4 to 8 yarns in length.

40.(Amended) The airbag cushion of Claim 39, wherein said polyamide yarns are multifilament yarns exhibiting a linear density of about 210-630 denier.

41.(Amended) The airbag cushion of Claim 40, wherein said multifilament yarns exhibit a filament linear density of about 4 denier per filament or less.

REMARKS

Claims 1-43 are pending within this application. No claims have been canceled, or added. Claims 1, 7, 13, 14, 17, 22, 26, and 35 have been amended cosmetically, and not substantially, to either conform to U.S. practice as noted by the Office in the objections or to more succinctly define the term laminate film within the claims. Such laminate film terminology

is present within the originally filed specification (such as within the Examples, at least). The specification has been amended as requested by the Office to denote trademarks properly. Additionally, certain minor typographical errors have been corrected as well. No new matter has been submitted. Entry and due consideration thereof such amendments are therefore earnestly solicited.

The Office has provisionally rejected Claims 1-43 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-15, 18-30, 33-45, 48,-60, and 63-69 of copending Application No. 09/718,643. The Office has also provisionally rejected Claims 1-43 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 5-11, 17-22, and 29-34 of U.S. Pat. Appl. No. 09/767,156 (now U.S. Pat. No. 6,451,715, so this is an actual obviousness-type double patenting rejection). Applicants disagree with the position of the Office simply because a laminate film, as claimed in the present application, is clearly defined within the claims now as well as within the specification thereof as follows: "[t]he film itself is produced prior to actual contact with the target airbag cushion, or fabric, surface. In order to apply such a film, a lamination procedure must be performed through the simultaneous exposure of heat and pressure over the film while in contact with the target surface." This is not a coating as claimed within the '643 application and the '715 patent claims.

A film must be pre-formed and laminated to the surface; a coating must be applied through certain techniques and then cured thereon, it cannot be laminated until a dimensionally stable surface has been formed, but that does not occur until curing is completed. There are thus clear patentably distinct differences. Reconsideration and withdrawal of such improper rejections are therefore respectfully requested.

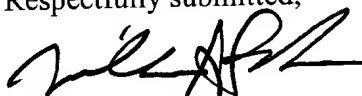
The only remaining rejections over the pending claims are obviousness-type double patenting-based. In response, Applicants herein submit proper Terminal Disclaimers to overcome such rejections over Application U.S. Pat. Nos. 6,429,155, and 6,220,309. Reconsideration and withdrawal of such bases of rejection are thus respectfully requested.

CONCLUSION

In view of all of the previous amendments and remarks, it is respectfully submitted that the pending claims are now in condition for allowance and it is requested that this application be passed on to issue.

February 14, 2003

Respectfully submitted,



William S. Parks

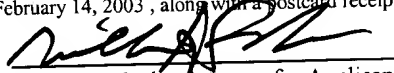
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Box Non-Fee Amendment, Commissioner of Patents, Washington, DC 20231, on February 14, 2003, along with a postcard receipt.



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MARKED-UP VERSION OF AMENDMENTS TO 09/718,812

IN THE SPECIFICATION:

The paragraph under the heading "Cross Reference to Related Applications" has been amended to read as follows:

--This application is a continuation of co-pending application 09/501,467, filed February 9, 2000, which is a continuation-in-part of 09/350,620, filed on July 7, 1999, now U.S. Pat. No. 6,117,366, which is a continuation-in-part of 09/335,257, filed on June 17, 1999, now U.S. Pat. No. 6,177,365; this application is also a continuation-in-part of co-pending application 09/406,264, filed on September 24, 1999, now U.S. Pat. No. 6,220,309. These parent applications are herein entirely incorporated by reference.--

-- Of particular interest as the desired films are polyurethanes, although any film which possesses the same desired tensile strength and elongation characteristics noted above may function within this inventive low permeability airbag cushion. Copolymers of polyurethanes, polyamides, and the like, may be utilized, as merely one type of example. Also, such films may or may not be cross-linked on the airbag surface. Preferably, the film is a polyurethane and most preferably is a polycarbonate polyurethane or a polyurethane film based on polytetramethylene glycol diol (available from Deerfield Urethane, Inc., Ivyland, PA, under the tradename [Dureflex™] DUREFLEX™ PT9400). This specific film exhibits a tensile strength of 8,000 psi and an elongation at break of about 600%. Such a film may be added in an amount of as low as 2.2 ounces per square yard on the desired cushion and still provide the requisite high leak-down time characteristics. Of course, any other film meeting the characteristics as noted above is encompassed within this invention; however, the add-on weights of other available films may be

greater than this preferred one, depending on the actual tensile strength and elongation properties available. However, the upper limit of 3.0 ounces per square yard should not be exceeded to meet this invention. The desired films may be added in multiple layers if desired as long the required thickness for the overall coating is not exceeded. Alternatively, the multiple layer film/coating system may also be utilized as long as at least one film possessing the desired tensile strength and elongation at break is utilized and the requisite low permeability is exhibited.--

The paragraph beginning on line 3 of page 15 has been amended to read as follows:

--Among the other additives particularly preferred within or on the film (or films) are heat stabilizers, flame retardants, primer adhesives, and materials for protective topcoats. A potentially preferred thickener is marketed under the trade designation NATROSOL™ 250 HHXR by the Aqualon division of Hercules Corporation which is believed to have a place of business at Wilmington, Delaware. In order to meet Federal Motor Vehicle Safety Standard 302 flame retardant requirements for the automotive industry, a flame retardant is also preferably added to the compounded mix. One potentially preferred flame retardant is [AMSPERSE] AMSPERSE® F/R 51 marketed by Amspec Chemical Corporation which is believed to have a place of business at Gloucester City New Jersey. As noted above, primer adhesives may be utilized to facilitate adhesion between the surface of the target fabric and the film itself. Thus, although it is preferable for the film to be the sole component of the entire coating in contact with the fabric surface, it is possible to utilize adhesion promoters, such as isocyanates, epoxies, functional silanes, and other such resins with adhesive properties, without deleteriously effecting the ability of the film to provide the desired low permeability for the target airbag cushion. A topcoat component, as with potential silicones, as noted above, may also be utilized to effectuate

proper non-blocking characteristics to the target airbag cushion. Such a topcoat may perform various functions, including, but not limited to, improving aging of the film (such as with silicone) or providing blocking resistance due to the adhesive nature of the coating materials (most noticeably with the preferred polyurethane polycarbonates).--

The paragraph beginning on line 18 of page 16 has been amended to read as follows:

--Two other tests which the specific coated airbag cushion must pass are the oven (heat) aging and humidity aging tests. Such tests also simulate the storage of an airbag fabric over a long period of time upon exposure at high temperatures and at relatively high humidities. These tests are actually used to analyze alterations of various different fabric properties after such a prolonged storage in a hot ventilated oven ($>100^{\circ}\text{C}$) (with or without humid conditions) for 2 or more weeks. For the purposes of this invention, this test was used basically to analyze the air permeability of the coated side curtain airbag by measuring the characteristic leak-down time (as discussed above, in detail). The initially produced and stored inventive airbag cushion should exhibit a characteristic leak-down time of greater than about 5 seconds (upon re-inflation at 10 psi gas pressure after the bag had previously been inflated to a peak pressure above about 15 psi and allowed to fully deflate) under such harsh storage conditions. Since polyurethanes, the preferred elastomers in this invention, may be deleteriously affected by high heat and humidity (though not as deleteriously as certain polyester and polyether-containing elastomers), it may be prudent to add certain components within a topcoat layer and/or within the elastomer itself. Antioxidants, antidegradants, and metal deactivators may be utilized for this purpose. Examples include, and are not intended to be limited to, [Irganox®] IRGANOX® 1010 and [Irganox®] IRGANOX® 565, both available from CIBA Specialty Chemicals. This topcoat may also

provide additional protection against aging and thus may include topcoat aging improvement materials, such as, and not limited to, polyamides, NBR rubbers, EPDM rubbers, and the like, as long as the elastomer composition (including the topcoat) does not exceed the 3.0 ounces per square yard (preferably much less than that, about 1.5 at the most) of the add-on weight to the target fabric.--

The paragraph beginning on line 1 of page 20 has been amended to read as follows:

--Recently, a move has been made away from both the multiple-piece side curtain airbags (which require great amounts of labor-intensive sewing to attached woven fabric blanks) and the traditionally produced one-piece woven cushions, to more specific one-piece woven fabrics which exhibit substantially reduced floats between woven yarns to substantially reduce the unbalanced shifting of yarns upon inflation, such as in Ser. No. 09/406,264, now U.S. Pat. No. 6,220,309, and 09/668,857, both to Sollars, Jr., the specifications of which are completely incorporated herein and described in greater depth hereafter:--

The paragraph beginning on line 20 of page 30 has been amended to read as follows:

--FIG. 4 shows the inflated side curtain airbag **126**. As noted above, the airbag **126** is [laminated] laminated with at most 2.7 ounces per square of a coating formulation (not illustrated), preferably the polyurethane film formulation of the EXAMPLE above. The inventive airbag **126** will remain sufficiently inflated for at least 5 seconds, and preferably more, as high as at least 20 seconds, most preferably.--

IN THE CLAIMS:

1.(Amended) An airbag cushion comprising a [coated] fabric exhibiting an outer surface and an inner surface in relation to said cushion, wherein a film is laminated to at least one of said outer surface and said inner surface of said fabric [said fabric is coated with a laminate film]; and wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at a discrete area within said fabric, wherein said at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width.

13.(Amended) The airbag cushion of Claim 11, wherein said polyamide yarns are multifilament yarns [characterized by] exhibiting a linear density of about 210-840 denier.

14.(Amended) The airbag cushion of Claim 13, wherein said multifilament yarns [are characterized by] exhibit a filament linear density of about 4 denier per filament or less.

17.(Amended) An airbag cushion comprising a [coated] fabric exhibiting an outer surface and an inner surface in relation to said cushion, wherein a film is laminated to at least one of said outer surface and said inner surface of said fabric [said fabric is coated with a laminate film]; and wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one single fabric layer at a discrete area within said fabric, wherein the weave diagram for such an inflatable fabric does not exhibit more than three consecutive unfilled blocks in any row or column.

22.(Amended) The airbag cushion of Claim 21, wherein said polyamide yarns are multifilament yarns [characterized by] exhibiting a linear density of about 210-630 denier.

23.(Amended) The airbag cushion of Claim 22, wherein said multifilament yarns [are characterized by] exhibit a filament linear density of about 4 denier per filament or less.

26.(Amended) An airbag cushion comprising a [coated] fabric exhibiting an outer surface and an inner surface in relation to said cushion, wherein a film is laminated to at least one of said outer surface and said inner surface of said fabric [said fabric is coated with a laminate film]; and wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one single fabric layer at a discrete area within said fabric, wherein only two separate weave densities are present within the area directly adjacent to said single fabric layer.

31.(Amended) The airbag cushion of Claim 30, wherein said polyamide yarns are multifilament yarns [characterized by] exhibiting a linear density of about 210-630 denier.

32.(Amended) The airbag cushion of Claim 31, wherein [wherein] said multifilament yarns [are characterized by] exhibit a filament linear density of about 4 denier per filament or less.

35.(Amended) An airbag cushion comprising a [coated] fabric exhibiting an outer surface and an inner surface in relation to said cushion, wherein a film is laminated to at least one of said outer surface and said inner surface of said fabric [said fabric is coated with a laminate film]; and wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at least two discrete areas within said fabric, wherein said at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width, wherein at least two discrete narrow areas of single fabric layers are present within said inflatable fabric, wherein said at least two areas of single fabric layers are separated by an area of at least two layers of fabric, and wherein the width of each single layer is from 4 to 8 yarns in length.

40.(Amended) The airbag cushion of Claim 39, wherein said polyamide yarns are multifilament yarns [characterized by] exhibiting a linear density of about 210-630 denier.

41.(Amended) The airbag cushion of Claim 40, wherein [wherein] said multifilament yarns [are characterized by] exhibit a filament linear density of about 4 denier per filament or less.